pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0088722**
Facility Type	**Industrial**	APS ID	**932420**
Major / Minor	**Minor**	Authorization ID	**1167878**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**JF Martin Family Corporation**	Facility Name	**John F. Martin & Sons WWTP**
Applicant Address	55 Lower Hillside Road, PO Box 137	Facility Address	55 Lower Hillside Road
	Stevens, PA 17578-9787		Stevens, PA 17578-9787
Applicant Contact	Nevin Nolt	Facility Contact	Nevin Nolt
Applicant Phone	(717) 336-2804	Facility Phone	(717) 336-2804
Client ID	36935	Site ID	452847
SIC Code	2013	Municipality	West Cocalico Township
SIC Description	Manufacturing - Sausages And Other Prepared Meats	County	Lancaster
Date Application Received	January 23, 2017	EPA Waived?	Yes
Date Application Accepted	August 22, 2017	If No, Reason	

Purpose of Application: NPDES Renewal.

Summary of Review

JF Martin Family Corporation has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its National Pollutant Discharge Elimination System (NPDES) permit. The permit was issued on February 11, 2011, and became effective on March 1, 2011. The permit authorized discharge of industrial wastewater from the existing facility located in West Cocalico Township, Lancaster County into Indian Run. The existing permit expiration date was February 29, 2016, and the permit has been administratively extended since that time.

Per the previous fact sheet, JF Martin Family Corporation is a meat processor. Animals were slaughtered and turned into cuts of meats such as chops, pork loins, roasts, steaks, etc., and are processed into finished meat products such as hot dogs, pork barbecue, sausage, smoked hams, smoked turkeys, etc. (during a previous permit cycle, the slaughtering operation was discontinued). They will ship in additional meat cuts such as bacon, boneless beef, chicken, hams, turkeys, etc. to process into the above finished meat products. Wastewater flows generated at the site come from multiple sources, including both domestic waste from the office and other areas, and floor wash down wastes from the meat processing areas. Sewage flows cannot be metered separately, but were originally estimated using a design of 35 gallons per day (gpd), which resulted in approximately 3,000 gpd for 80 employees. A 0.09 million gallons per day (mgd) wastewater treatment plant (WWTP) was constructed in 2001. The wastewater is first pretreated with screens and a primary settling tank for oil and grease. The wastewater then goes to the WWTP's 24,000 gallon equalization (EQ) tank, followed by two (2) 59,000-gallon aeration tanks and two (2) 8,800-gallon clarifiers. These clarifiers discharge to a 2,300-gallon chlorine contact tank and a 618-gallon dechlorination tank, followed by a 1,900-gallon polishing clarifier/metering tank and a 548-gallon post aeration tank. Waste sludge is held in an aerated tank with ultimate disposal via land application. Alum is used for phosphorus removal. Liquid sodium hypochlorite and sodium bisulfate are used for chlorination and dechlorination, respectively.

Approve	Deny	Signatures	Date
X		*Benjamin Lockwood* Benjamin R. Lockwood / Environmental Engineering Specialist	February 5, 2021
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. / Program Manager	

Summary of Review

Changes in this renewal: A more stringent total residual chlorine (TRC) limit with a compliance schedule was added to the permit. More stringent mass loading limits were added to the permit for Oil and Grease. Monitoring for Bromide, Chloride, and Sulfate was added. The total nitrogen (TN) measurement frequency was changed to 1/month. More stringent mass loading limits and summertime instantaneous maximum (IMAX) limit for ammonia-nitrogen (NH_3-N) have been added. Fecal coliform IMAX limits were added to the permit.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Supplemental information for this report is located at the end of the fact sheet.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.09
Latitude	40º 14' 48"	Longitude	76º 12' 51"
Quad Name	Ephrata	Quad Code	1736
Wastewater Description:	IW Process Effluent with ELG, Sewage		
Receiving Waters	Indian Run (TSF)	Stream Code	07710
NHD Com ID	57461453	RMI	5.6
Drainage Area	1.91 mi^2	Yield (cfs/mi^2)	0.062
Q_{7-10} Flow (cfs)	0.23	Q_{7-10} Basis	USGS Gage # 01576500
Elevation (ft)	435	Slope (ft/ft)	
Watershed No.	7-J	Chapter 93 Class.	TSF, MF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Impaired		
Cause(s) of Impairment	Pathogens		
Source(s) of Impairment	Source Unknown		
TMDL Status	N/A	Name	N/A
Nearest Downstream Public Water Supply Intake	Lancaster City Water Bureau		
PWS Waters	Conestoga River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	25.1

Changes Since Last Permit Issuance: A drainage area of 1.91 mi^2 and a Q_{7-10} flow of 0.23 cubic feet per second (cfs) were determined by establishing a correlation to the yield of USGS Gage Station #01576500 on the Conestoga River. The Q_{7-10} and drainage area at the gage are 38.6 cfs and 324 mi^2, respectively. These values are taken from the USGS document "Selected Streamflow Statistics for Streamgage Locations in and near Pennsylvania". The Q_{7-10} runoff rate at the gage station was calculated as follows:

Yield = (38.6 cfs)/ 324 mi^2 = 0.12 cfs/mi^2

The drainage area at the discharge point, taken from USGS PA StreamStats = 1.91 mi^2

The Q_{7-10} at the discharge point = 1.91 mi^2 x 0.12 cfs/mi^2 = 0.23 cfs

Other Comments: None

Treatment Facility Summary				
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial	Secondary With Ammonia And Phosphorus	Extended Aeration	Chlorine With Dechlorination	0.09
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.09	630	Not Overloaded	Sludge Holding	Land Application

Changes Since Last Permit Issuance: None

Other Comments: The treatment process is as follows: Equalization Tank – Dissolved Air Filtration (DAF) Unit - 2 Aeration Tanks – 2 Clarifiers – Chlorine Contact Tank – Dechlorination – Post Aeration Tank – Sludge Holding Tank – Outfall 001 to Indian Run

The DAF unit is used for chemical addition and primary treatment. Solids removed from the DAF unit are sent to a holding tank. Solids wasted from the clarifiers are sent to a second holding tank. Solids from both holding tanks are land applied as liquid to John F. Martin owned farm fields.

Compliance History	
Summary of DMRs:	A summary of the past 12-month DMR effluent data is presented on the next page of this fact sheet.
Summary of Inspections:	10/22/2014: A routine inspection was conducted by Andrew Hall, DEP Water Quality Specialist. Influent to the EQ was fairly clear with a slight red turbidity. Both aeration tanks had even distribution of air with very little foaming. Clarifiers had a clear effluent. Baffles, weirs, and troughs were all clean with even flow. The chlorine contact tank was clean with clear water. All field readings were within permitted limits. The outfall looked good, with clear effluent, and the stream was clean upstream and downstream. 7/15/2016: A routine inspection was conducted by Sheena Ripple, DEP Water Quality Specialist. All field readings were within permitted limits. No issues with the facility were noted. 7/13/2017: A routine inspection was conducted by Kevin Buss, DEP Water Quality Specialist. The treatment units were operating normally. Field readings were within permitted limits. No issues were apparent at the outfall.

Other Comments: There are currently no open violations associated with the permittee or the facility.

Compliance History

DMR Data for Outfall 001 (from December 1, 2019 to November 30, 2020)

Parameter	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20	JAN-20	DEC-19
Flow (MGD) Average Monthly	0.03493	0.03875	0.03497	0.03543	0.03696	0.03528	0.03631	0.03046	0.03277	0.03374	0.02461	0.02683
Flow (MGD) Daily Maximum	0.05260	0.05760	0.05090	0.05230	0.05630	0.05090	0.05690	0.04890	0.05860	0.04530	0.04170	0.03940
pH (S.U.) Instantaneous Minimum	7.05	7.12	7.44	7.65	7.53	7.58	7.59	7.46	7.78	7.76	7.70	7.71
pH (S.U.) Instantaneous Maximum	7.86	7.92	8.05	8.15	8.44	8.25	8.05	8.22	8.22	8.19	8.34	8.21
DO (mg/L) Instantaneous Minimum	7.1	7.1	7.0	6.9	6.7	7.0	7.1	6.9	6.8	6.9	6.4	6.8
TRC (mg/L) Average Monthly	0.298	0.275	0.271	0.250	0.280	0.250	0.262	0.260	0.241	0.229	0.184	0.220
TRC (mg/L) Instantaneous Maximum	0.38	0.45	0.42	0.37	0.62	0.50	0.38	0.38	0.37	0.34	0.30	0.44
CBOD5 (lbs/day) Average Monthly	< 0.69	< 0.68	< 0.72	< 0.7	< 0.97	< 0.87	< 0.67	< 0.98	< 0.83	< 0.92	< 0.5	< 0.65
CBOD5 (lbs/day) Daily Maximum	< 0.88	< 0.78	< 0.8	< 0.73	2.04	1.33	0.75	1.38	1.38	1.13	0.83	1.09
CBOD5 (mg/L) Average Monthly	< 2	< 2	< 2	< 2	< 2.7	< 2.38	< 2	< 3.22	< 2.63	< 2.6	< 2.64	< 2.88
CBOD5 (mg/L) Daily Maximum	< 2	< 2	< 2	< 2	5.5	3.5	2	5.9	4.2	3.2	3.8	4.3
TSS (lbs/day) Average Monthly	3.94	3.59	3.11	2.86	2.37	1.41	1.67	2.91	4.07	3.94	1.57	2.39
TSS (lbs/day) Daily Maximum	7.02	7.44	9.23	4.39	4.45	2.44	3.94	5.71	7.56	4.53	2.64	4.8
TSS (mg/L) Average Monthly	11	9.8	8.2	8.3	6.6	4	5	9	13.3	11.3	7.6	10
TSS (mg/L) Daily Maximum	16	20	23	13	12	7	12	14	23	13	9	18
Total Dissolved Solids (lbs/day) Average Monthly	1149.4	1223.8	1267.7	947.1	1044.6	1186.8	1059.6	1074.8	936.2	1053	551.2	628.9

Total Dissolved Solids (mg/L) Average Monthly	3310	3598	3518	2708	2932	3278	3173	3288	3013	2990	2936	3025
Oil and Grease (lbs/day) Average Monthly	< 1.714	< 1.703	< 1.811	< 1.75	< 1.776	< 1.809	< 1.669	< 1.652	< 1.554	< 1.935	< 0.951	< 1.125
Oil and Grease (lbs/day) Daily Maximum	< 2.19	< 1.96	< 2.01	< 1.83	< 1.86	< 1.9	< 1.88	< 2.04	< 1.66	2.46	< 1.65	< 1.74
Oil and Grease (mg/L) Average Monthly	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5.5	< 5	< 5.3
Oil and Grease (mg/L) Instantaneous Maximum	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	7.0	< 5.0	< 6.0
Fecal Coliform (CFU/100 ml) Geometric Mean	< 2.2	< 2.2	< 2	< 2	< 2.7	< 2.2	< 4.6	< 2.2	4.8	< 3.2	< 2.4	< 2
Nitrate-Nitrite (mg/L) Average Quarterly			44.9			65.0			54.1			55.5
Nitrate-Nitrite (lbs) Total Monthly	627.5	719.32	379.76	411.29	429.05	573.76	610.19	478.86	458.35	449.33	352.61	383.26
Total Nitrogen (mg/L) Average Quarterly			46.0			66.8			56.5			57.7
Total Nitrogen (lbs) Effluent Net Total Monthly	650.22	745.37	388.72	421	439.18	589.56	627.0	492.05	478.26	468.84	367.93	398.32
Total Nitrogen (lbs) Total Monthly	650.22	745.37	388.72	421	439.18	589.56	627.0	492.05	478.26	468.84	367.93	398.32
Total Nitrogen (lbs) Total Quarterly			1248.9			1708.6			1315.0			1329.2
Total Nitrogen (lbs) Total Annual			5601.7									
Ammonia (lbs/day) Average Monthly	< 0.055	< 0.457	< 0.046	< 0.243	< 0.036	< 0.036	< 0.062	0.115	< 0.031	< 0.035	< 0.019	< 0.061
Ammonia (mg/L) Average Monthly	< 0.17	< 1.18	< 0.128	< 0.69	< 0.1	< 0.1	< 0.195	0.37	< 0.1	< 0.1	< 0.1	< 0.238
Ammonia (lbs) Total Monthly	< 1.66	< 14.15	< 1.33	< 7.52	< 1.1	< 1.09	< 1.92	3.35	< 0.96	< 1.02	< 0.59	< 1.89
Ammonia (lbs) Total Annual			< 22.51									
Nitrate (lbs) Total Quarterly			1220.1			1662.8			1260.3			1278.9
TKN (mg/L) Average Quarterly			1.06			1.79			2.35			2.18

TKN (lbs) Total Monthly	22.72	26.05	8.97	9.71	10.13	15.80	16.80	13.19	19.91	19.52	15.3	15.1
TKN (lbs) Total Quarterly			28.8			45.8			54.7			50.2
Total Phosphorus (lbs/day) Average Monthly	0.321	0.294	0.369	0.388	0.35	0.273	0.344	0.220	< 0.179	0.213	0.097	0.155
Total Phosphorus (mg/L) Average Monthly	0.928	0.865	1.014	1.092	0.972	0.739	1.01	0.646	< 0.361	0.580	0.526	0.646
Total Phosphorus (lbs) Effluent Net Total Monthly	9.62	9.12	10.71	12.02	10.86	8.19	10.66	6.38	< 5.54	6.19	3.01	4.79
Total Phosphorus (lbs) Total Monthly	9.62	9.12	10.71	12.02	10.86	8.19	10.66	6.38	< 5.54	6.19	3.01	4.79
Total Phosphorus (lbs) Total Annual			86.40									

Existing Effluent Limitations and Monitoring Requirements

The table below summarizes the effluent limits and monitoring requirements implemented in the existing NPDES permit.

Outfall 001

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.31	XXX	1.02	1/day	Grab
CBOD5	13.7	27.5	XXX	25	50	62.5	1/week	24-Hr Composite
TSS	16.5	33	XXX	30	60	75	1/week	24-Hr Composite
Total Dissolved Solids	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Oil and Grease	6.58	13.1	XXX	15	XXX	30	1/week	Grab
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	XXX	1/week	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	400 Geo Mean	XXX	XXX	1/week	Grab
Ammonia May 1 - Oct 31	2.74	XXX	XXX	3	XXX	9	1/week	24-Hr Composite
Ammonia Nov 1 - Apr 30	8.22	XXX	XXX	9	XXX	18	1/week	24-Hr Composite
Total Phosphorus	Report	XXX	XXX	2	XXX	4	1/week	24-Hr Composite

Outfall 001 (cont.)

Parameter	Effluent Limitations					Monitoring Requirements	
	Mass Load (lbs)		Concentrations (mg/L)			Minimum Measurement Frequency	Required Sample Type
	Monthly	Annual	Minimum	Monthly Average	Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	1/week	24-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	1/quarter	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	1/week	24-Hr Composite
Net Total Nitrogen	Report	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	XXX	XXX	XXX	XXX	1/month	Calculation

Compliance Sampling Location: At discharge from facility

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .09
Latitude 40º 14' 48" **Longitude** 76º 12' 51"
Wastewater Description: IW Process Effluent with ELG, Sewage

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Parameter	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)
BOD_5	0.62 lbs / 1000 lbs	Maximum Daily	432.85(a)	-
BOD_5	0.31 lbs / 1000 lbs	Average Monthly	432.85(a)	-
Fecal Coliform	400 CFU per 100 ml	Maximum Daily	432.85(a)	-
Oil & Grease	0.22 lbs / 1000 lbs	Maximum Daily	432.85(a)	-
Oil & Grease	0.11 lbs / 1000 lbs	Average Monthly	432.85(a)	-
TSS	0.74 lbs / 1000 lbs	Maximum Daily	432.85(a)	-
TSS	0.37 lbs / 1000 lbs	Average Monthly	432.85(a)	-

This facility is regulated by an Effluent Limitation Guideline (ELG) from the Code of Federal Regulations 40 CFR §432 Meat and Poultry Products Point Source Category. Part 432 has 12 different subparts, which were reviewed to determine the appropriate category for JF Martin Family Corporation. The previous permit renewal was developed based on Subpart E – Small Processors. However, Section 432.50 states that "This part applies to discharges…by a small processor" Section 432.51 defines a small processor as "an operation that produces no more than 6,000 lbs (2,730 kg) per day of any type or combination of finished products." The Applicant Contact, Nevin Nolt, provided updated production information for the facility on December 6, 2019. The anticipated average annual production for the facility is 15,000,000 lbs, with 22 days of production per month. This equates to an average of 56,818 lbs/day, which would disqualify them from being covered under Subpart E. The updated production information listed the current processes as curing, smoking, and packing meat products; and the facility generates hams, hotdogs, and lunch meats. This best fits under Subpart H – Ham Processors. Section 432.80 states "This part applies to discharges of process wastewater resulting from the production of hams, alone or in combination with other finished products, by a ham processor." Section 432.81 defines ham processor as "an operation producing hams, alone or in combination with other finished products, at rates greater than 6,000 lbs (2,730 kg) per day, and finished products as "the final product as fresh meat cuts, which includes steaks, roasts, chops or boneless meat, smoked or cured hams, bacon or other smoked meats, sausage, bologna or other luncheon meats (except canned meats). This facility was considered a New Source for the original June 2001 NPDES Permit, and continued to be a New Source after the revisions to Part 432 on September 8, 2004. The Technology- Based Limitations will be based on the anticipated annual production of 15,000,000 lbs, or 56,818 lbs/day.

Section 432.85(a) New Source Performance Standards (NSPS) requires facilities that generate no more than 50 million pounds per year of finished products to achieve the standards for BOD_5, fecal coliform, O&G, and TSS specified in Section 432.82(a). Section 432.82 (a) provides the following effluent limitations table:

EFFLUENT LIMITATIONS

Regulated parameter	Maximum daily[1]	Maximum monthly avg.[1]
BOD_5	0.62	0.31
Fecal Coliform	([2])	([3])
O&G[4]	0.22	0.11
TSS	0.74	0.37

[1]Pounds per 1000 lbs (or g/kg) of finished product.

[2]Maximum of 400 MPN or CFU per 100 mL at any time.

[3]No maximum monthly average limitation.

[4]May be measured as hexane extractable material (HEM).

(b) Facilities that generate more than 50 million pounds per year of finished products must achieve the limitations for BOD_5, fecal coliform, O&G, and TSS specified in paragraph (a) of this section

These ELG limitations were used to develop average monthly and maximum daily loading limits for the facility. An example calculation for BOD_5 is shown:

0.62 lbs. per 1,000 lbs. x 56,818 lbs/day = 35.22 lbs/day

The average monthly and maximum daily loading limits developed by the ELG limitations are shown in the table below:

Parameter	Maximum daily (lbs/day)	Monthly Average (lbs/day)
BOD_5	35.23	17.61
O&G	12.50	6.25
TSS	42.05	21.02

Due to the plumbing of the facility, sewage cannot be separated from the process water and must be accounted in the mass loading development. The water quality-based effluent limits (WQBELs), discussed in the fact sheet below, require a $CBOD_5$ limit of 25 mg/l $CBOD_5$. Using this limit, the TBEL TSS limit of 30 mg/l, and an estimated sewage flow of 3,000 gpd, the mass loading contribution from sewage is as follows:

BOD_5: 25 mg/l x 8.34 x 0.003 mgd = 0.63 lbs/day

TSS: 30 mg/l x 8.34 x 0.003 mgd = 0.75 lbs/day

The combined average monthly and maximum daily loading limits (ELG loading and sewage loading) are shown in the table below:

Parameter	Average Monthly Loading (lbs/day)			Maximum Daily Loading (lbs/day)		
	ELG Loading	Sewage Loading	Total	ELG Loading	Sewage Loading	Total
BOD_5	17.61	0.63	18.24	35.23	1.26	36.49
O&G	6.25	0	6.25	12.50	0	12.50
TSS	21.02	0.75	21.77	42.05	1.5	43.55

pH

PA Code §§ 95.2(1) requires effluent pH limits of 6.0 to 9.0 standard units (S.U.) at all times in effluent. The permit will continue to require pH limit of 6.0 to 9.0 S.U.

Total Residual Chlorine

The attached computer printout utilizes the equations and calculations as presented in the Department's May 1, 2003 Implementation Guidance for Total Residual Chlorine (TRC) (ID No. 391-2000-015) for developing chlorine limitations. The Guidance references Chapter 92, Section 92.2d (3) which establishes a standard BAT limit of 0.5 mg/l unless a facility-specific BAT has been developed. The attached printout indicates that a water quality limit of 0.25 mg/l would be needed to prevent toxicity concerns. It is recommended that a TRC limit of 0.25 mg/l monthly average and 0.81 mg/l instantaneous maximum be applied this permit cycle, which is more stringent than the existing permit limit. Based on the past year of DMR data, the facility is capable of meeting this limit in some months, but would slightly exceed it in others. As a result, a compliance schedule has been included in the permit for TRC to ensure there is adequate time for the permittee to comply with the new limit.

Compliance Schedule

A compliance schedule is necessary to meet the TRC limit. The following conditions will be incorporated into Part C of the NPDES permit:

1. If the permittee decides to conduct site-specific studies, the permittee shall notify DEP in writing within 60 days of permit issuance and submit the study results within 18 months of permit issuance.

2. If DEP agrees that, as a result of the studies, modifications to the WQBELs for TRC are appropriate, DEP will prepare and issue a draft permit amendment to the permittee, publish notice of the draft permit in the Pennsylvania Bulletin, and following the comment period issue a final permit amendment. DEP may also amend the schedule to achieve compliance with final TRC limits in the permit amendment.

3. If the permittee decides not to conduct site-specific studies, the permittee shall achieve compliance with the final TRC limits thirty six months (three years) following the permit effective date.

Optional Site-Specific Data Collection

If the permittee elects to evaluate chlorine demand concentrations, the study shall be performed in accordance with DEP's guidance, "Implementation Guidance Total Residual Chlorine (TRC) Regulation" (DEP ID 391-2000-015), Appendix B, or subsequent guidance published by DEP. In developing the final WQBELs for TRC, DEP has assumed in-stream and discharge chlorine demands of 0.3 mg/l and 0 mg/l, respectively.

Oil and Grease

DEP's SOP No. BPNPSM-PMT-032 states that if the maximum concentration of oil and grease in the discharge is 8 mg/l or greater, establish an effluent limitation of 15 mg/l average monthly and 30 mg/l Instantaneous Maximum (IMAX). The maximum concentration from the past year of DMR data is 11.1 mg/l, so this requirement would apply. There are already existing limits of 15 mg/l average monthly and 30 mg/l IMAX in the permit for Oil and Grease, so they will remain in the renewal permit. The mass loading limits developed using the ELG are more stringent than the limits in the existing permit. Therefore an average monthly limit of 6.25 lbs/day and a maximum daily limit of 12.5 lbs/day will be incorporated into the permit.

Total Dissolved Solids (TDS)

Total Dissolved Solids and its major constituents including Bromide, Chloride, and Sulfate have become statewide pollutants of concern and threats to DEP's mission to prevent violations of water quality standards. The requirement to monitor these pollutants must be considered under the criteria specified in 25 Pa. Code § 95.10 and the following January 23, 2014 DEP Central Office Directive:

For point source discharges and upon issuance or reissuance of an individual NPDES permit:

- Where the concentration of TDS in the discharge exceeds 1,000 mg/L, or the net TDS load from a discharge exceeds 20,000 lbs/day, and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for TDS, sulfate, chloride, and bromide. Discharges of 0.1 MGD or less should monitor and report for TDS, sulfate, chloride, and bromide if the concentration of TDS in the discharge exceeds 5,000 mg/L.

- Where the concentration of bromide in a discharge exceeds 1 mg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for bromide. Discharges of 0.1 MGD or less should monitor and report for bromide if the concentration of bromide in the discharge exceeds 10 mg/L.

- Where the concentration of 1,4-dioxane (CAS 123-91-1) in a discharge exceeds 10 µg/l and the discharge flow exceeds 0.1 mgd, Part A of the permit should include monitor and report for 1,4-dioxane. Discharges of 0.1 mgd or less should monitor and report for 1,4-dioxane if the concentration of 1,4-dioxane in the discharge exceeds 100 µg/l.

JF Martin reported the maximum effluent TDS concentration of 11,800 mg/l and 0.2 mg/l for Bromide. Based upon the data provided in the application, monitoring of TDS, Bromide, Chloride, and Sulfate will be required. An existing monitoring requirement for TDS is included in the existing permit, and a monitoring requirement will be added for Bromide, Chloride, and Sulfate. A monitoring frequency of 1/week and 24-hour composite sample type will be used for these parameters.

Chesapeake Bay Total Maximum Daily Load (TMDL)

DEP developed a strategy to comply with the EPA and Chesapeake Bay Foundation requirements by reducing point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP). This strategy can be located in the Pennsylvania Chesapeake Watershed Implementation Plan (WIP), dated January 11, 2011. Subsequently, an update to the WIP was published as the Phase 2 WIP. As part of the Phase 2 WIP, a Phase 2 Watershed Implementation Plan Wastewater Supplement (Phase 2 Supplement) was developed, providing an update on TMDL implementation for point sources and DEP's current implementation strategy for wastewater. Subsequently, a Phase 3 Watershed Implementation Plan Wastewater Supplement (Phase 3 Supplement) was developed, dated December 17, 2019. Industrial discharges have been prioritized by Central Office based on their delivered TN and TP loadings to the Bay. Significant industrial wastewater dischargers are facilities that discharge more than 75 lbs/day of TN or 25 lbs/day of TP on an average annual basis and the rest are classified as non-significant dischargers. Based on the Phase 3 Supplement, this facility is classified as a non-significant discharger, as it does not meet the threshold of 75 lbs/day TN or 25 lbs/day TP on an annual average basis. The Phase 3 Supplement recommends a nutrient monitoring frequency of 1/month for food processing and related discharges; TN and TP monitoring is included in the existing permit which will remain in the renewal. The parameter measurement frequency for TN will be revised to 1/month.

$CBOD_5$, NH_3-N

Pursuant to 40 CFR § 122.44(d)(1)(i), more stringent requirements should be considered when pollutants are discharged at the levels which have the reasonable potential to cause or contribute to excursions above water quality standards.

WQM 7.0 ver. 1.0b is a water quality model designed to assist DEP in determining appropriate WQBELs for carbonaceous biochemical oxygen demand ($CBOD_5$), ammonia (NH_3-N), and dissolved oxygen (D.O.). DEP's Technical Guidance No. 391-2000-007 provides the technical methods contained in WQM 7.0 for determining wasteload allocations and for determining recommended NPDES effluent limits for point source discharges. The model was utilized for this permit application.

The flow data used to run the model was acquired from USGS PA StreamStats and USGS Gage # 01576500 on the Conestoga River, and is included in the attachment. Stream pH and temperature inputs for this model run were based on data acquired from the National Water Quality Monitoring Council website. Data was analyzed from the Water Quality Network (WQN) Station ID 273 from October 2004 to December 2018. DEP's Standard Operating Procedure (SOP) No. BPNPSM-PMT-032 (Establishing Effluent Limitations for Individual Industrial Permits) recommends using the 90th percentile

of long-term data for background and discharge characteristics when using WQM 7.0. A 90th percentile analysis was performed on the data and resulted in a Stream pH of 8.4 and a Stream Temperature of 24.0°C. The model output indicated a $CBOD_5$ average monthly limit of 25 mg/l, an NH_3-N average monthly limit of 3.48 mg/l, and a D.O. minimum limit of 5.0 mg/l were protective of water quality. The existing NH_3-N limit of 3.0 mg/l is more stringent and will remain in the permit. The limits were revised to conform with the statement in the SOP No. BCW-PMT-032 that all concentration limits less than 10 should contain at least one decimal place. The summertime IMAX limit for NH_3-N has been revised to 6.0 mg/l, as the IMAX limit should be developed using a multiplier of 2. The NH_3-N mass loading limits were updated to reflect the limit of 3.0 mg/l and the design flow of 0.09 mgd. The $CBOD_5$ limit of 25 mg/l is as stringent as the existing limit, which will remain in the permit. The WQM 7.0 model calculates $CBOD_5$ and not BOD_5. To compare the ELG and WQBEL results for $CBOD_5$, BOD_5 must be converted. Engineering literature suggests that $CBOD_5$ is approximately 15-20% less than BOD_5. For conversion of the ELG BOD_5 into $CBOD_5$, a factor 15% is used, which resulted in an average monthly mass load of 15.5 lbs/day and a maximum daily mass load of 31.0 lbs/day. The existing mass load limits of 13.7 lbs/day and 27.5 lbs/day are more stringent, and will remain in the permit.

Total Suspended Solids

25 Pa. Code § 92a.47(a)(1) requires an average monthly TSS limit of 30 mg/l for discharges of sewage. This is the same as the existing limit, which will remain in the permit. The existing TSS mass loading limits of 16.5 lbs/day average monthly and 33 lbs/day daily maximum are more stringent than the ELG mass loading limits of 21.77 lbs/day average monthly and 43.55 lbs/day daily maximum. These more stringent mass loading limits will remain in the permit.

Toxics

A review of the application did not show any toxics of concern in the effluent. This is consistent with the development of previous renewals; therefore, the use of DEP's Toxics Management Spreadsheet Version 1.0 is not necessary for this permit renewal.

Total Phosphorus

For TP, the existing NPDES permit requires the permittee to comply with average monthly and IMAX limits of 2 mg/L and 4 mg/L, respectively. DEP's Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams (Guidance No. 391-2000-018) was used during the past renewal to evaluate if phosphorus limitations were necessary. According to the guidance, phosphorus limits would be needed if the contributions from this facility exceeded 0.25% of the total phosphorus load of all discharges in the Lower Susquehanna River Basin. The calculated 14.9 lbs/day was 0.39% of the loading after delivery ratios to the lower Susquehanna River were applied; therefore, TP limits were applied. An existing average monthly limit of 2.0 mg/l and instantaneous maximum limit of 4.0 mg/l will remain in the permit to protect the local watershed. The limits were revised to conform with the statement in the SOP No. BCW-PMT-032 that all concentration limits less than 10 should contain at least one decimal place.

Dissolved Oxygen

A minimum D.O. limit of 5.0 mg/L is a D.O. water quality criterion found in 25 Pa. Code § 93.7(a). This limit is included in the existing NPDES permit based BPJ. It is still recommended to include this limit in the draft permit to ensure that the facility continues to achieve compliance with DEP water quality standards.

Fecal Coliform

PA Code § 92a.47.(a)(4) requires a monthly average limit of 200/100 mL as a geometric mean and an instantaneous maximum limit not greater than 1,000/100 mL from May through September for fecal coliform. PA Code § 92a.47.(a)(5) requires a monthly average limit of 2,000/100 mL as a geometric mean and an instantaneous maximum limit not greater than 10,000/100 mL from October through April for fecal coliform. The existing limits of summer 200 CFU/100 ml and winter 400 CFU/100 ml are more stringent, and will remain in the permit. The instantaneous maximum fecal coliform limits have been included in the permit.

Sampling Frequency & Sample Type

The monitoring requirements were established based on the Best Professional Judgment (BPJ), Table 6-3, and/or Table 6-4 of DEP's Technical Guidance No. 362-0400-001.

Anti-Degradation

The effluent limits for this discharge have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

303(d) Listed Streams

The discharge is located on a stream segment that is designated on the 303(d) list as impaired. There is a recreational impairment for pathogens from an unknown source. The permit includes limits for fecal coliform.

Class A Wild Trout Fisheries

No Class A Wild Trout Fisheries are impacted by this discharge.

Anti-Backsliding

Pursuant to 40 CFR § 122.44(l)(1), all proposed permit requirements addressed in this fact sheet are at least as stringent as the requirements implemented in the existing NPDES permit unless any exceptions addressed by DEP in this fact sheet.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through 3 Years from Permit Issuance.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.31	XXX	1.02	1/day	Grab
CBOD5	13.7	27.5	XXX	25	50	62.5	1/week	24-Hr Composite
TSS	16.5	33	XXX	30	60	75	1/week	24-Hr Composite
Oil and Grease	6.25	12.5	XXX	15	XXX	30	1/week	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	400 Geo Mean	XXX	10,000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
Total Dissolved Solids	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Bromide	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Chloride	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Sulfate	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Ammonia Nov 1 - Apr 30	6.75	XXX	XXX	9.0	XXX	18	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	2.25	XXX	XXX	3.0	XXX	6.0	1/week	24-Hr Composite

Outfall 001, Continued (from Permit Effective Date through 3 Years from Permit Issuance)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Phosphorus	Report	XXX	XXX	2.0	XXX	4.0	1/week	24-Hr Composite

Compliance Sampling Location: Outfall 001

Other Comments: None

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: 3 Years from Permit Issuance through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.25	XXX	0.81	1/day	Grab
CBOD5	13.7	27.5	XXX	25	50	62.5	1/week	24-Hr Composite
TSS	16.5	33	XXX	30	60	75	1/week	24-Hr Composite
Oil and Grease	6.25	12.5	XXX	15	XXX	30	1/week	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	400 Geo Mean	XXX	10,000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
Total Dissolved Solids	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Bromide	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Chloride	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Sulfate	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Ammonia Nov 1 - Apr 30	6.75	XXX	XXX	9.0	XXX	18	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	2.25	XXX	XXX	3.0	XXX	6.0	1/week	24-Hr Composite

Outfall 001, Continued (from 3 Years from Permit Issuance through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Phosphorus	Report	XXX	XXX	2.0	XXX	4.0	1/week	24-Hr Composite

Compliance Sampling Location: Outfall 001

Other Comments: None

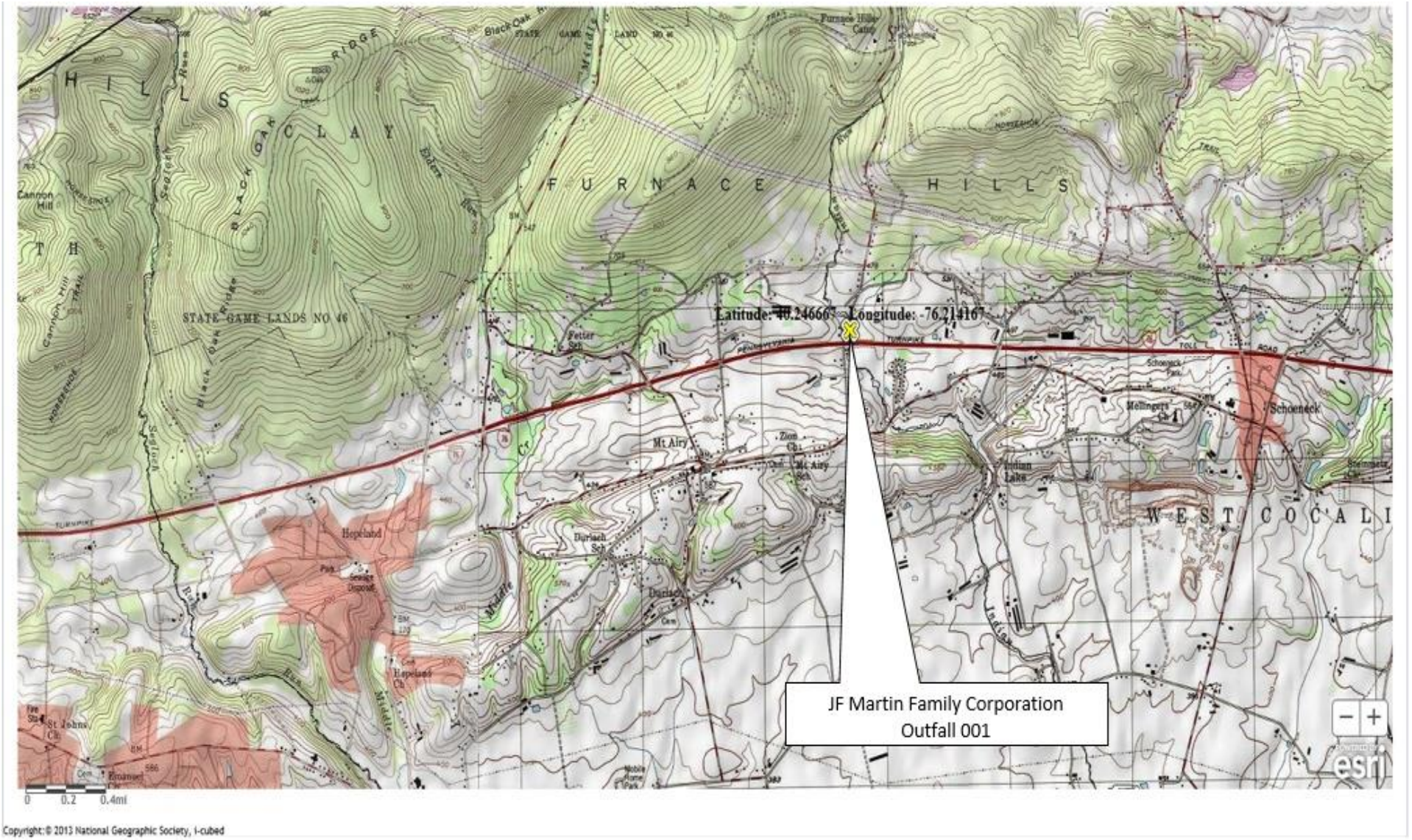
Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, to comply with Pennsylvania's Chesapeake Bay Tributary Strategy.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations					Monitoring Requirements	
	Mass Units (lbs)		Concentrations (mg/L)			Minimum Measurement Frequency	Required Sample Type
	Monthly	Annual	Minimum	Monthly Average	Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	1/week	24-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	1/month	24-Hr Composite
Nitrite-Nitrate as N	Report	XXX	XXX	Report	XXX	1/month	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	1/week	24-Hr Composite
Net Total Nitrogen	XXX	Report	XXX	XXX	XXX	1/year	Calculation
Net Total Phosphorus	XXX	Report	XXX	XXX	XXX	1/year	Calculation

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment)
☐	Toxics Management Spreadsheet (see Attachment)
☒	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☒	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP: No. BCW-PMT-032, No. BCW-PMT-033
☐	Other: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JF Martin Family Corporation
Outfall 001
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JF Martin Family Corporation PA0088722 Outfall 001

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JF Martin Family Corporation PA0088722 Outfall 001

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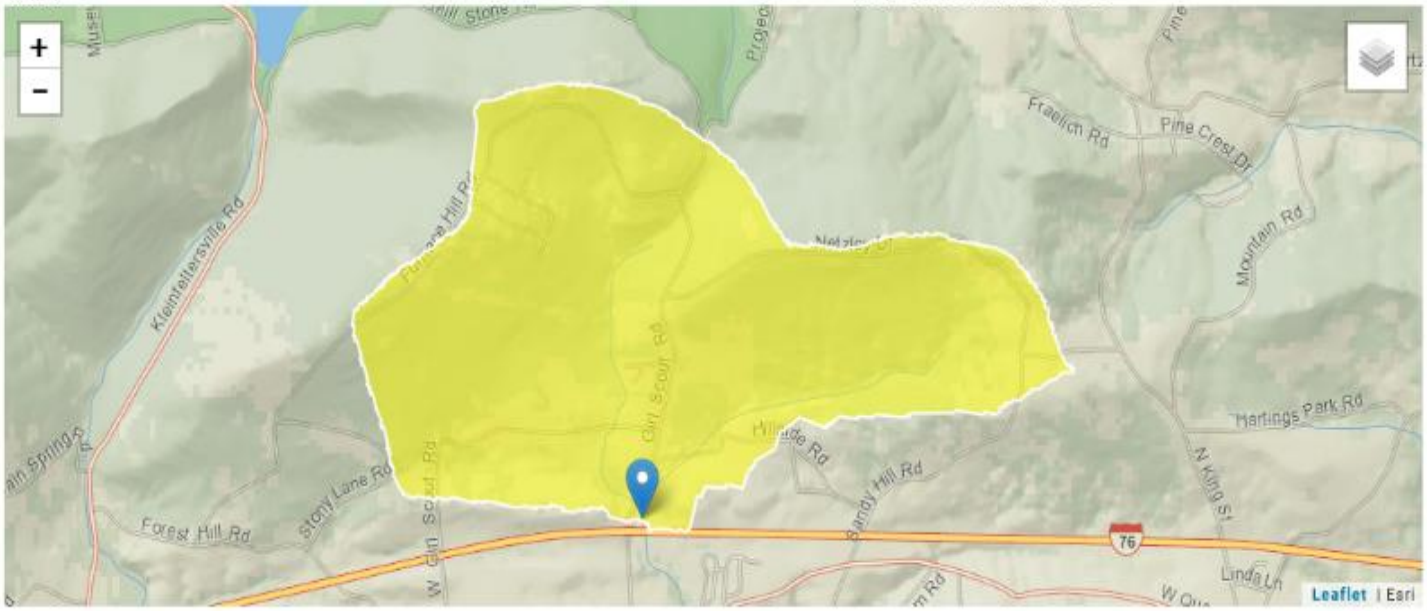

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1.91	square miles
BSLOPD	Mean basin slope measured in degrees	6.3717	degrees
ROCKDEP	Depth to rock	4	feet
URBAN	Percentage of basin with urban development	3.2932	percent

Low-Flow Statistics Parameters[Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.91	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	6.3717	degrees	1.7	6.4
ROCKDEP	Depth to Rock	4	feet	4.13	5.21
URBAN	Percent Urban	3.2932	percent	0	89

Low-Flow Statistics Disclaimers[Low Flow Region 1]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report[Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.285	ft^3/s
30 Day 2 Year Low Flow	0.385	ft^3/s
7 Day 10 Year Low Flow	0.119	ft^3/s
30 Day 10 Year Low Flow	0.17	ft^3/s
90 Day 10 Year Low Flow	0.262	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p.

Application Version: 4.4.0

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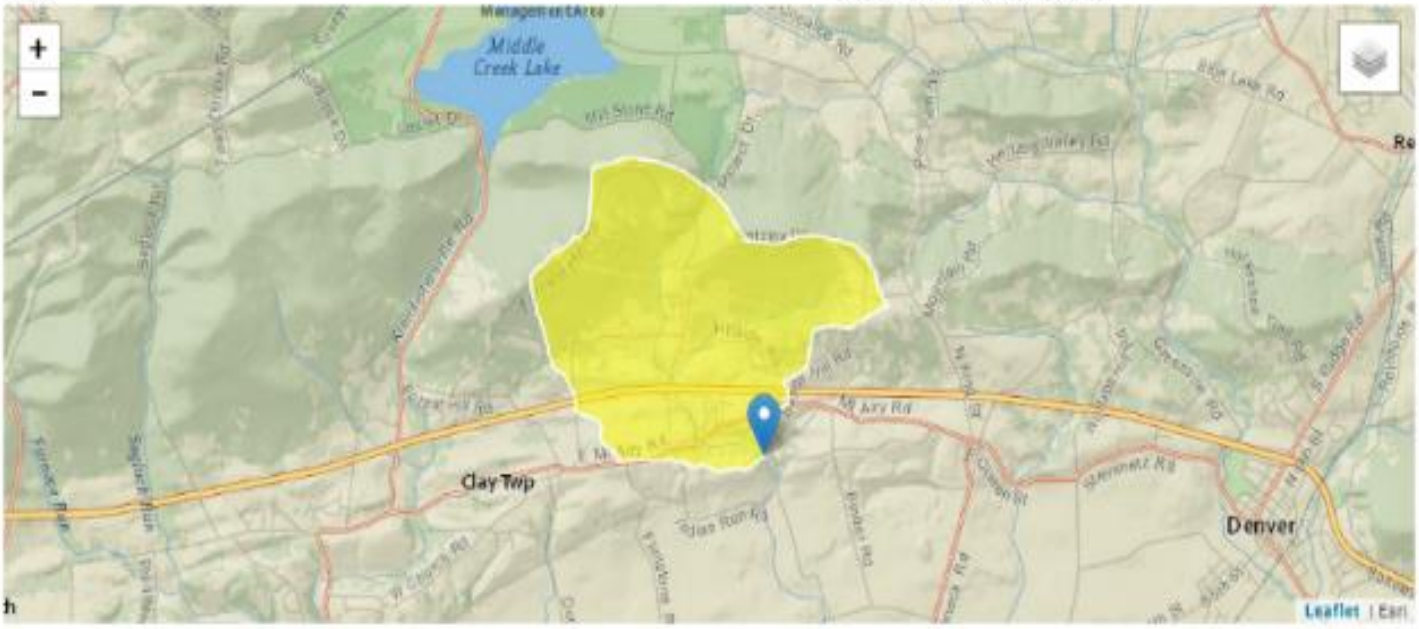

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	2.69	square miles
BSLOPD	Mean basin slope measured in degrees	6.0795	degrees
ROCKDEP	Depth to rock	3.8	feet
URBAN	Percentage of basin with urban development	4.9243	percent

Low-Flow Statistics Parameters[Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2.69	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	6.0795	degrees	1.7	6.4
ROCKDEP	Depth to Rock	3.8	feet	4.13	5.21
URBAN	Percent Urban	4.9243	percent	0	89

Low-Flow Statistics Disclaimers[Low Flow Region 1]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report[Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.314	ft^3/s
30 Day 2 Year Low Flow	0.441	ft^3/s
7 Day 10 Year Low Flow	0.125	ft^3/s
30 Day 10 Year Low Flow	0.188	ft^3/s
90 Day 10 Year Low Flow	0.304	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p.

Application Version: 4.4.0

1	1A	B	C	D	E	F	G	
2	2	**TRC EVALUATION**						
3	3	Input appropriate values in B4:B8 and E4:E7						
4	4	0.23	= Q stream (cfs)		0.5	= CV Daily		
5	5	0.09	= Q discharge (MGD)		0.5	= CV Hourly		
6	6	30	= no. samples		1	= AFC_Partial Mix Factor		
7	7	0.3	= Chlorine Demand of Strea		1	= CFC_Partial Mix Factor		
8	8	0	= Chlorine Demand of Disch		15	= AFC_Criteria Compliance Time (min)		
9	9	0.5	= BAT/BPJ Value		720	= CFC_Criteria Compliance Time (min)		
10		0	= % Factor of Safety (FOS)			=Decay Coefficient (K)		
11	10	Source	Reference	AFC Calculations		Reference	CFC Calculations	
12	11	TRC	1.3.2.iii	WLA afc = 0.546		1.3.2.iii	WLA cfc = 0.525	
13	12	PENTOXSD TRC	5.1a	LTAMULT afc = 0.373		5.1c	LTAMULT cfc = 0.581	
14	13	PENTOXSD TRC	5.1b	LTA_afc= 0.203		5.1d	LTA_cfc = 0.305	
15	14							
16	15	Source		Effluent Limit Calculations				
17	16	PENTOXSD TRC	5.1f	AML MULT = 1.231				
18	17	PENTOXSD TRC	5.1g	AVG MON LIMIT (mg/l) = 0.250		AFC		
19	18			INST MAX LIMIT (mg/l) = 0.819				
20								
21								
22								
23		WLA afc	**(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...**					
24			**...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**					
25		LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)					
26		LTA_afc	wla_afc*LTAMULT_afc					
27								
28		**WLA_cfc**	**(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...**					
29			**...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**					
30		LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)					
31		**LTA_cfc**	wla_cfc*LTAMULT_cfc					
32								
33		AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))					
34		AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)					
35		INST MAX LIMIT	**1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)**					
36								
37								
38								
39								
40								
41								

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Title 40: Protection of Environment
PART 432—MEAT AND POULTRY PRODUCTS POINT SOURCE CATEGORY

Subpart H—Ham Processors

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§432.80 Applicability.

This part applies to discharges of process wastewater resulting from the production of hams, alone or in combination with other finished products, by a ham processor.

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§432.81 Special definitions.

For the purpose of this subpart:

(a) *Finished products* means the final product as fresh meat cuts, which includes steaks, roasts, chops or boneless meat, smoked or cured hams, bacon or other smoked meats, sausage, bologna or other luncheon meats (except canned meats).

(b) *Ham processor* means an operation producing hams, alone or in combination with other finished products, at rates greater than 6000 lbs (2730 kg) per day.

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§432.82 Effluent limitations attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BPT:

(a) Facilities that generate no more than 50 million pounds per year of finished products must achieve the following effluent limitations:

EFFLUENT LIMITATIONS

[BPT]

Regulated parameter	Maximum daily[1]	Maximum monthly avg.[1]
BOD_5	0.62	0.31
Fecal Coliform	([2])	([3])
O&G[4]	0.22	0.11
TSS	0.74	0.37

[1]Pounds per 1000 lbs (or g/kg) of finished product.

[2]Maximum of 400 MPN or CFU per 100 mL at any time.

[3]No maximum monthly average limitation.

[4]May be measured as hexane extractable material (HEM).

(b) Facilities that generate more than 50 million pounds per year of finished products must achieve the limitations for BOD_5, fecal coliform, O&G, and TSS specified in paragraph (a) of this section.

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§432.83 Effluent limitations attainable by the application of the best available technology economically achievable (BAT).

Except as provided by 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BAT:

(a) Facilities that generate no more than 50 million pounds per year of finished products must achieve the following effluent limitations:

EFFLUENT LIMITATIONS

[BAT]

Regulated parameter	Maximum daily[1]	Maximum monthly avg.[1]
Ammonia (as N)	8.0	4.0

[1]mg/L (ppm).

(b) Facilities that generate more than 50 million pounds per year of finished products must achieve the following effluent limitations:

EFFLUENT LIMITATIONS

[BAT]

Regulated parameter	Maximum daily[1]	Maximum monthly avg.[1]
Ammonia (as N)	8.0	4.0
Total Nitrogen	194	134

[1]mg/L (ppm).

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§432.84 Pretreatment standards for existing sources (PSES). [Reserved]

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§432.85 New source performance standards (NSPS).

Except as provided in paragraph (c) of this section, any source that is a new source subject to this subpart must achieve the following performance standards:

(a) Facilities that generate no more than 50 million pounds per year of finished products must achieve the standards for BOD_5, fecal coliform, O&G, and TSS specified in §432.82(a).

(b) Facilities that generate more than 50 million pounds per year of finished products must achieve the limitations for BOD_5, fecal coliform, O&G, and TSS specified in §432.82(b) and the limitations for ammonia (as N) and total nitrogen specified in §432.83(b).

(c) Any source that was a new source subject to the standards specified in §432.85 of title 40 of the Code of Federal Regulations, revised as of July 1, 2003, must continue to achieve the standards specified in this section until the expiration of the applicable time period specified in 40 CFR 122.29(d)(1) after which it must achieve the effluent limitations specified in §§432.82 and 432.83.

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§432.86 Pretreatment standards for new sources (PSNS). [Reserved]

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§432.87 Effluent limitations attainable by the application of the best control technology for conventional pollutants (BCT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the application of BCT: Limitations for BOD_5, fecal coliform, O&G, and TSS are the same as the corresponding limitations specified in §432.82.

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Need assistance?

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
07J	7710	INDIAN RUN	5.600	435.00	1.91	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	0.23	0.000	0.000	0.0	0.00	0.00	20.00	7.00	24.00	8.40
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
JF Martin	PA0088722	0.0900	0.0900	0.0900	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
07J	7710	INDIAN RUN	4.640	409.00	2.69	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	0.32	0.000	0.000	0.0	0.00	0.00	20.00	7.00	24.00	8.40
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	0.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
07J	7710	INDIAN RUN

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
5.600	0.23	0.00	0.23	.1392	0.00513	.432	8.18	18.93	0.10	0.561	24.38	7.40
Q1-10 Flow												
5.600	0.15	0.00	0.15	.1392	0.00513	NA	NA	NA	0.09	0.647	24.49	7.30
Q30-10 Flow												
5.600	0.31	0.00	0.31	.1392	0.00513	NA	NA	NA	0.12	0.501	24.31	7.47

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
07J	7710	INDIAN RUN

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
5.600	JF Martin	5.44	11.18	5.44	11.18	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
5.600	JF Martin	1.07	3.48	1.07	3.48	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
5.60	JF Martin	25	25	3.48	3.48	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
07J	7710	INDIAN RUN

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
5.600	0.090	24.377	7.396
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
8.179	0.432	18.935	0.105
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
10.67	1.222	1.31	0.980
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.020	25.054	Owens	5
Reach Travel Time (days)			
0.561			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.056	9.81	1.24	7.26
0.112	9.02	1.17	7.38
0.168	8.30	1.11	7.47
0.225	7.63	1.05	7.54
0.281	7.02	1.00	7.61
0.337	6.45	0.94	7.62
0.393	5.93	0.89	7.62
0.449	5.46	0.84	7.62
0.505	5.02	0.80	7.62
0.561	4.61	0.76	7.62

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
07J	7710	INDIAN RUN

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
5.600	JF Martin	PA0088722	0.090	CBOD5	25		
				NH3-N	3.48	6.96	
				Dissolved Oxygen			5